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OM protein - protein search, using SW model

Run on: March 17, 2003, 08:49:36 ; Search time 34 Seconds
(without alignments)
2985.817 Million cell updates/sec

Title: US-10-010-227-3
Perfect score: 4055
Sequence: 1 MFGAESTPQTLVDKVLQAHV.....KAVEPTTNGEKKEPLEW 778

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 603988 seqs, 130485580 residues

Total number of hits satisfying chosen parameters: 603988

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 100 summaries

Database : Pending Patents_AA_New:*
1: /cgn2_6/ptodata/1/paa/PCIT_NEW_COMB.pep:*
2: /cgn2_6/ptodata/1/paa/US06_NEW_COMB.pep:*
3: /cgn2_6/ptodata/1/paa/US07_NEW_COMB.pep:*
4: /cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*
5: /cgn2_6/ptodata/1/paa/US09_NEW_COMB.pep:*
6: /cgn2_6/ptodata/1/paa/US10_NEW_COMB.pep:*
7: /cgn2_6/ptodata/1/paa/US60_NEW_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	4055	100.0	778	1	PCT-US02-39286-12 Sequence 12, Appl
2	3397	83.8	840	6	US-10-369-493-3233 Sequence 3233, Ap
3	2456.5	60.6	779	6	US-10-369-493-21952 Sequence 21952, A
4	2068.5	51.0	875	6	US-10-369-493-7864 Sequence 7864, Ap
5	2055	50.7	695	6	US-10-369-493-9965 Sequence 9965, Ap
6	2027.5	50.0	710	6	US-10-369-493-15849 Sequence 15849, A
7	2025.5	50.0	753	6	US-10-282-122A-50294 Sequence 50294, A
8	2018.5	49.8	711	6	US-10-369-493-15479 Sequence 15479, A
9	1995	49.2	752	6	US-10-369-493-9413 Sequence 9413, Ap
10	1978	48.8	755	6	US-10-369-493-11883 Sequence 11883, A
11	1963.5	48.4	749	6	US-10-369-493-9308 Sequence 9308, Ap
12	1955.5	48.2	681	6	US-10-369-493-8616 Sequence 8616, Ap
13	1891	46.4	740	6	US-10-369-493-7437 Sequence 7437, Ap
14	1881	46.4	729	6	US-10-369-493-4678 Sequence 4678, Ap
15	1861	45.9	686	6	US-10-369-493-7055 Sequence 7055, Ap
16	1857	45.8	688	6	US-10-369-493-4299 Sequence 4299, Ap
17	1711.5	42.2	672	6	US-10-369-493-9059 Sequence 9059, Ap
18	1697.5	41.9	646	6	US-10-369-493-10463 Sequence 10463, A
19	1682.5	41.5	676	6	US-10-369-493-16643 Sequence 16643, A
20	1670.5	41.2	679	6	US-10-369-493-14041 Sequence 14041, A
21	1595.5	39.3	668	6	US-10-369-493-8819 Sequence 8819, Ap
22	1586	39.1	469	6	US-10-369-493-15002 Sequence 15002, A
23	1560	38.5	477	6	US-10-282-122A-51178 Sequence 51178, A
24	1558.5	38.4	469	6	US-10-282-122A-55286 Sequence 55286, A
25	1545.5	38.1	469	6	US-10-282-122A-65917 Sequence 65917, A
26	1529.5	37.7	471	6	US-10-369-493-19706 Sequence 19706, A

27	1526	37.6	475	6	US-10-282-122A-68871 Sequence 68871, A
28	1520.5	37.5	472	6	US-10-282-122A-45090 Sequence 45090, A
29	1508	37.2	672	6	US-10-369-493-7323 Sequence 7323, Ap
30	1507.5	37.2	480	6	US-10-282-122A-43510 Sequence 43510, A
31	1507.5	37.2	480	6	US-10-369-493-28668 Sequence 28668, A
32	1505	37.1	459	6	US-10-282-122A-47840 Sequence 47840, A
33	1500	36.8	477	6	US-10-282-122A-67721 Sequence 67721, A
34	1494	36.6	670	6	US-10-369-493-4565 Sequence 4565, Ap
35	1483.5	36.6	466	6	US-10-282-122A-59513 Sequence 59513, A
36	1479.5	36.5	466	6	US-10-282-122A-56405 Sequence 56405, A
37	1477.5	36.4	466	6	US-10-282-122A-76008 Sequence 76008, A
38	1471	36.3	466	6	US-10-282-122A-58376 Sequence 58376, A
39	1458.5	36.0	465	6	US-10-282-122A-55825 Sequence 55825, A
40	1452	35.8	476	6	US-10-282-122A-77910 Sequence 77910, A
41	1449.5	35.7	472	6	US-10-282-122A-62917 Sequence 62917, A
42	1446.5	35.7	468	6	US-10-282-122A-67452 Sequence 67452, A
43	1441	35.5	476	6	US-10-282-122A-62247 Sequence 62247, A
44	1439.5	35.5	469	6	US-10-282-122A-68556 Sequence 68556, A
45	1436	35.4	507	6	US-10-282-122A-49077 Sequence 49077, A
46	1425.5	35.2	467	6	US-10-282-122A-77491 Sequence 77491, A
47	1406.5	34.7	477	6	US-10-282-122A-62917 Sequence 62917, A
48	1397.5	34.5	453	6	US-10-282-122A-73183 Sequence 73183, A
49	1391	34.3	484	6	US-10-282-122A-53727 Sequence 53727, A
50	1385	34.2	473	6	US-10-282-122A-64818 Sequence 64818, A
51	1381	34.1	485	6	US-10-282-122A-62546 Sequence 62546, A
52	1354	33.4	470	6	US-10-282-122A-54676 Sequence 54676, A
53	1311.5	32.3	461	6	US-10-092-411A-13892 Sequence 13892, Ap
54	1300	32.1	456	6	US-10-282-122A-70845 Sequence 70845, A
55	1288	32.0	456	6	US-09-950-084-6093 Sequence 6093, Ap
56	1282	31.6	456	6	US-10-282-122A-43986 Sequence 43986, A
57	1282	31.6	456	6	US-10-282-122A-60508 Sequence 60508, A
58	1279.5	31.4	464	6	US-10-282-122A-45325 Sequence 45325, A
59	1274.5	30.7	464	6	US-10-282-122A-48943 Sequence 48943, A
60	1243	30.0	473	6	US-10-282-122A-75342 Sequence 75342, A
61	1217.5	29.9	462	6	US-10-282-122A-45317 Sequence 45317, A
62	1211.5	29.9	457	6	US-10-282-122A-45317 Sequence 45317, A
63	1178.5	28.9	463	6	US-10-369-493-19849 Sequence 19849, A
64	1172.5	28.9	463	6	US-10-369-493-18971 Sequence 18971, A
65	1157.5	28.5	461	6	US-10-282-122A-72141 Sequence 72141, A
66	1132.5	27.9	460	6	US-10-369-493-18414 Sequence 18414, A
67	720.5	17.8	273	6	US-10-282-122A-71892 Sequence 71892, A
68	684.5	16.9	432	6	US-10-369-493-68 Sequence 68, Appl
69	641	15.8	431	6	US-10-369-493-625 Sequence 625, Appl
70	640.5	15.8	659	6	US-10-369-493-139 Sequence 139, Appl
71	637.5	15.7	424	6	US-10-369-493-21658 Sequence 21658, A
72	635	15.7	424	6	US-10-369-493-21467 Sequence 21467, A
73	613	15.1	419	6	US-10-369-493-1224 Sequence 1224, Ap
74	602.5	14.9	420	6	US-10-369-493-1032 Sequence 1032, Ap
75	595.5	14.7	417	6	US-10-369-493-2954 Sequence 2954, Ap
76	595.5	14.7	728	1	PCT-US02-40225-3277 Sequence 3277, Ap
77	595.5	14.7	728	6	US-10-320-797-3277 Sequence 3277, Ap
78	587.5	14.5	422	6	US-10-369-493-21351 Sequence 21351, A
79	576.5	14.2	422	6	US-10-282-122A-51844 Sequence 51844, A
80	575	14.2	421	6	US-10-369-493-9736 Sequence 9736, Ap
81	573.5	14.1	421	6	US-10-369-493-12142 Sequence 12142, A
82	566	14.0	748	6	US-10-369-493-12716 Sequence 12716, A
83	562	13.9	651	6	US-10-369-493-18713 Sequence 18713, A
84	561.5	13.8	709	6	US-10-369-493-4229 Sequence 4229, Ap
85	552	13.6	429	6	US-10-369-493-21555 Sequence 21525, Ap
86	552	13.6	721	6	US-10-369-493-2166 Sequence 2166, Ap
87	545	13.4	425	6	US-10-282-122A-5373 Sequence 5373, A
88	543	13.4	684	6	US-10-369-493-28808 Sequence 28808, A
89	541.5	13.4	424	6	US-10-369-493-2920 Sequence 2920, Ap
90	536.5	13.2	413	6	US-10-369-493-11053 Sequence 11053, A
91	475.5	11.7	780	6	US-10-368-119-375 Sequence 375, Appl
92	475	11.7	780	6	US-10-369-493-5788 Sequence 5788, Appl
93	463	11.4	905	6	US-10-369-493-2550 Sequence 2550, Ap
94	462	11.4	757	6	US-10-369-493-12761 Sequence 12761, A
95	449.5	11.1	789	6	US-10-369-493-10237 Sequence 10237, A
96	444.5	11.0	789	6	US-10-369-493-22130 Sequence 22130, A
97	440	10.9	816	6	US-10-369-493-3409 Sequence 3409, Ap
98	439.5	10.8	778	6	US-10-369-493-2251 Sequence 2251, Ap
99	435.5	10.7	852	5	US-09-724-676-76375 Sequence 76375, A

100 435.5 10.7 852 5 US-09-724-676-76376 Sequence 76376, A

ALIGNMENTS

RESULT 1

PCT-US02-39286-12

; Sequence 12, Application PC/TUS0239286

; GENERAL INFORMATION:

; APPLICANT: Lo, Sze Chung C

; APPLICANT: Montenegro-Chamorro, Maria V

; APPLICANT: Frank, Sheryl A

; APPLICANT: Darveau, Blaise A

; APPLICANT: Mahanty, Sanjoy K

; APPLICANT: Heiniger, Ryan W

; APPLICANT: Skalchunes, Amy R

; APPLICANT: Pan, Huaqin

; APPLICANT: Tarpey, Rex

; APPLICANT: Shuster, Jeffrey R

; APPLICANT: Tanzer, Matthew M

; APPLICANT: Hamer, Lisbeth

; APPLICANT: Adachi, Kiichi

; APPLICANT: DeZwaan, Todd M

; TITLE OF INVENTION: METHODS FOR THE IDENTIFICATION OF INHIBITORS OF

; TITLE OF INVENTION: ASPARAGINE SYNTHASE, 5-AMINOLEVULINATE SYNTHASE, HISTIDINOL-

; TITLE OF INVENTION: PHOSPHATASE, 3-ISOPROPYLMALATE AND THREONINE SYNTHASE AS

; TITLE OF INVENTION: ANTIBIOTICS

; FILE REFERENCE: 2079PCT

; CURRENT APPLICATION NUMBER: PCT/US02/39286

; CURRENT FILING DATE: 2002-12-06

; NUMBER OF SEQ ID NOS: 15

; SOFTWARE: PatentIn version 3.1

; SEQ ID NO 12

; LENGTH: 778

; TYPE: PRT

; ORGANISM: Magnaporthe grisea

PCT-US02-39286-12

Query Match 100.0%; Score 4055; DB 1; Length 778;

Best Local Similarity 100.0%; Pred. No. 0;

Matches 778; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MFGAESTPOTLYDKVLOAHVVDKLDGTLLYIDRHLVHVVTSPQAFGLRNAGRKVRVP 60

DB 1 MFGAESTPOTLYDKVLOAHVVDKLDGTLLYIDRHLVHVVTSPQAFGLRNAGRKVRVP 60

QY 61 DCTLATTDHNVPTTSRKALKDIASFIEDDSRTQCVTLEENVKEFGVTVYFGLSDKRGIV 120

DB 61 DCTLATTDHNVPTTSRKALKDIASFIEDDSRTQCVTLEENVKEFGVTVYFGLSDKRGIV 120

QY 121 HVIGPEQGTLPQTIVVCGDSHTSTHGAFGALAFGIGTSEVHVLAFCQLITKRSKNMIR 180

DB 121 HVIGPEQGTLPQTIVVCGDSHTSTHGAFGALAFGIGTSEVHVLAFCQLITKRSKNMIR 180

QY 181 QVDGELAPGVSSKDVVLAHGIIGTAGTGAVTEFCGVSIVRSLSMEARMSICNMSIEGGA 240

DB 181 QVDGELAPGVSSKDVVLAHGIIGTAGTGAVTEFCGVSIVRSLSMEARMSICNMSIEGGA 240

QY 241 RAGMVAPDEITFEYLKGRPLAPKYDSEPHKATQYWKNLQSDPGCAKYDIDVFIDAKDIVP 300

DB 241 RAGMVAPDEITFEYLKGRPLAPKYDSEPHKATQYWKNLQSDPGCAKYDIDVFIDAKDIVP 300

QY 301 TLTWGTSPEVDVPIITGVDPDPETFAEAKKADGRRMLQYMGKAGTPEMEDI PVDKVFIS 360

DB 301 TLTWGTSPEVDVPIITGVDPDPETFAEAKKADGRRMLQYMGKAGTPEMEDI PVDKVFIS 360

QY 361 CTNSRIEDLRAAAA VVKGRKAPNVKAMVVPVPGSLVKTQABEGLDKIPFEAGFEWREA 420

DB 361 CTNSRIEDLRAAAA VVKGRKAPNVKAMVVPVPGSLVKTQABEGLDKIPFEAGFEWREA 420

QY 421 GCSMCLGNPDILAPOERCASNNRPFGRQAGGRTHLMSPVMAAAAGIVGKLADVRKL 480

DB 421 GCSMCLGNPDILAPOERCASNNRPFGRQAGGRTHLMSPVMAAAAGIVGKLADVRKL 480

QY 481 TDYKASPHIAAYQKSTVTKPHVDERINQDAHEKDIADI PEDNNGPHNTNTSASVGTSGAGL 540

DB 481 TDYKASPHIAAYQKSTVTKPHVDERINQDAHEKDIADI PEDNNGPHNTNTSASVGTSGAGL 540

QY 541 PKFTILKGIAAPLEKANVDDTAIIPKQFLKTIKRTGLGNALFYENRFDGTEKSDPVLN 600

DB 541 PKFTILKGIAAPLEKANVDDTAIIPKQFLKTIKRTGLGNALFYENRFDGTEKSDPVLN 600

QY 601 KEPYRKASILVCTGANFCGSSREHAPWALNDFGIRSVIAPSFADIFFNNSFKNGMLPIP 660

DB 601 KEPYRKASILVCTGANFCGSSREHAPWALNDFGIRSVIAPSFADIFFNNSFKNGMLPIP 660

QY 661 IKDQAQIEAIAAEARAGKEIEVDLPNQLIKNATGETICTFEVEEPRKHCVLNGLDDIGLT 720

DB 661 IKDQAQIEAIAAEARAGKEIEVDLPNQLIKNATGETICTFEVEEPRKHCVLNGLDDIGLT 720

QY 721 MQMEDKIAEFAKMTRETPWLDGTGYLKRKGQGGKLAAKAVPVTNNRGEKEKEPLEW 778

DB 721 MQMEDKIAEFAKMTRETPWLDGTGYLKRKGQGGKLAAKAVPVTNNRGEKEKEPLEW 778

RESULT 2

US-10-369-493-3233

; Sequence 3233, Application US/10369493

; GENERAL INFORMATION:

; APPLICANT: Cao, Yongwei

; APPLICANT: Hinkle, Gregory J.

; APPLICANT: Slater, Steven C.

; APPLICANT: Goldman, Barry S.

; APPLICANT: Chen, Xianfeng

; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF

; TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES

; FILE REFERENCE: 38-10(52052)B

; CURRENT APPLICATION NUMBER: US/10/369,493

; CURRENT FILING DATE: 2003-02-28

; PRIOR FILING DATE: 2003-02-28

; PRIOR FILING DATE: 2002-02-21

; NUMBER OF SEQ ID NOS: 47374

; SEQ ID NO 3233

; LENGTH: 840

; TYPE: PRT

; ORGANISM: Neurospora crassa

; FEATURE:

; NAME/KEY: unsure

; LOCATION: (1)..(840)

; OTHER INFORMATION: unsure at all Xaa locations

US-10-369-493-3233

Query Match 83.8%; Score 3397; DB 6; Length 840;

Best Local Similarity 77.8%; Pred. No. 1.2e-278;

Matches 655; Conservative 53; Mismatches 60; Indels 74; Gaps 5;

QY 9 QTLVYDKVLOAHVVDKLDGTLLYIDRHLVHVVTSP----- 44

DB 1 RTLYDKVFOAHVVDKLDGTLLYIDRHLVHVVTSPVRSLNPHAGELRFRSPVPSTDPXS 60

QY 45 -QAFEGRLNAGRKVRPPDCTLATTDH----- 69

DB 61 IQAFEGLENAGRQVRPPDCTLATTDHVVSSMSLPLFFYFHHMAAFAFRPYLAPQSOLCG 120

QY 70 -----NVPTTSRKALKDIASFIEDDSRTQCVTLEENVKEFGVTVYFGLSKRQGI 119

DB 121 TASXPTRCRMVPTTSRKALKDIASFIEDDSRTQCVTLEENVKEFGVTVYFGLSKRQGI 180

QY 120 VHVIGPEQGTLPQTIVVCGDSHTSTHGAFGALAFGIGTSEVHVLAFCQLITKRSKNMR 179

DB 181 VHVIGPEQGTLPQTIVVCGDSHTSTHGAFGALAFGIGTSEVHVLAFCQLITKRSKNMR 240

QY 180 IQVDGELAPGVSSKDVVLAHGIIGTAGTGAVTEFCGVSIVRSLSMEARMSICNMSIEG 239

DB 241 QVDGELAPGVSSKDVVLAHGIIGTAGTGAVTEFCGVSIVRSLSMEARMSICNMSIEG 300

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QY 240 ARAGVAVPEITFEYLYKGRPLAKYDSPEHMKATQYKAKNLOSDEGAKYDIDVDFDADIV 299
Db 301 ARAGVAVPEITFEYLYKGRPLARYGSEEWNKAVTYKKSILASDPAKXDIDVDFIDGXII 360
QY 300 PLTYGTSGSEDEVPIPIGVVDPDETFATEAKKAOORMLQYVGLAAGTFMEDIPVDKVFIG 359
Db 361 PLTYGTSGSEDEVPIPIGVVDPDETFATEGKKAAGRRIETVGLVPGTFMEIIEVDKVFIG 420
QY 360 SCTNSRIEDLRAAAAIVVKGRKKAPNVKSAWVPDGLVTKQAEIEEGLDKIFEAGFEMRE 419
Db 421 SCTNSRIEDLRAAAQVVKGKKIAANIKBALIVPQSLVVKQAEAGELDKIFEAGFEMRE 480
QY 420 AGCSNCLGNPDILAOERCASTSNRNFEBOGAGGRTHTLMSPYMAAAAAGIVGLADYRK 479
Db 481 AGCSNCLGNPDILSPKERCASSTSNRNFEBOGAGGRTHTLMSPYMAAAAAGIVGLADYRK 540
QY 480 LTDYASPIHAIY---QKSTVTKPHYDERINODAEHDITADIPEDNNGPHNTNSASVGT 536
Db 541 LTDYASSPVEAAVPIETTSATAKHDERIEEDVEYDKLADQFQDS--PQVNTSVS--KS 598
QY 537 SAGLEKFTLLKGIABLEKANVDTDAIIPKQFLTKIKRTGIGNALFYEMRENEDEGTEKSD 596
Db 599 SAGLEKFTLVKGIAPMEKANIDTDALIPKQFLTKIKRTGIGSALFYEMRNPNDSSEPN 658
QY 597 FVLNKEPYKASILVCTGANFGCGSSREHAPMALNDGIRSVLNPSPADIFPNNSFKXGM 656
Db 659 FVLNKEPYKASAKIVCTGANFGCGSSREHAPMALNDGVKSVIAPSPADIFPNNSFKXGM 718
QY 657 LPIPIKDOQIEAIAEABARAGKIEVDLPNOLIGNATGETCTFEVEEFRRHCLVNGLDD 716
Db 719 LPIAIKQDALEVRHAEBAAGREIEIDLPMOLIKDAQGNITCEBEVEEFRHCLVNGLDD 778
QY 717 IGLTNQMEDKIAEFAKMTRETPMLDGTGYLKRKGQGGKLAKAVPVPTTNGEKEKEPL 776
Db 779 IGLTNQMEDKIAEYKAKMSQTPMLDGRAVLKRRKGQGGKLAKAVPVPTTNGEKEKEPL 838
QY 777 EW 778
Db 839 EW 840

RESULT 3
US-10-369-493-21952
; Sequence 21952, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; PRIORITY FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 21952
; LENGTH: 779
; TYPE: PRT
; ORGANISM: Saccharomyces cerevisiae
US-10-369-493-21952

```

Query Match	60.6%;	Score 2456.5;	DB 6;	Length 779;
Best Local Similarity	63.1%;	Pred. No.5.4e-199;		
Matches 486;	Conservative 93;	Matches 152;	Indels 39;	Gaps 10;

Qy	8	P	O	T	L	D	K	V	L	G	A	V	N	E	K	D	T	V	L	T	D	R	H	V	E	N	S	P	O	A	F	E	L	R	N	G	R	V	R	P	D	C	L	A	T	T	67					
		:								:	:																																									
Db	9	P	R	T	L	D	K	V	L	G	A	V	N	E	K	D	E	N	G	S	F	L	L	I	D	R	L	V	H	E	N	S	P	O	A	F	E	L	R	N	G	R	V	R	P	D	C	L	A	T	T	68

Qy	68	DHNVTTSRKLKDIASFKEEDSRQCVTLSENNVKEFGVTYGLSKRGIVHIVGEO	127
Db	69	DHNVTTSRKNFKSLDTFELKQYDSRLQVKTLENNVQGFVPYQMSDARGOVIHTIGEB	128
Qy	128	GFTLPGTIVWCDSHSTSTHGFAGLAFGICGTSSEVHVLAQCLITKSKMMRLQVDSLA	187
Db	129	GFTLPGTIVWCDSHSTSTHGFAGLAFGICGTSSEVHVLAQCLITKSKMMRIVNKGLS	188
Qy	188	PGVSSKDVVLAHIGIITGAGTGAVIEFCGSVIRSLSEARMSICNNSIEGGAFAGVAP	247
Db	189	PGTISKDLITVYIIGITAGTGCVIEFAGEALEALSEMARMSCNNAIEAGARAGMIKP	248
Qy	248	DEITFEYLKGRPLAKYDSEPMHKAQYQKXNLOSDGAKYDIDVFLDAKQIVPLTIGTS	307
Db	249	DEITFOYTKGRPLAK--GAEMEKAVALYKTLTDEGAKDHEDINIEAVVPIITIGTS	306
Qy	308	PEDVPIPIGVNDPEIFATEAKKADGRMLQVYGLAAGTMEBIPVDKVFISGTSNRIE	367
Db	307	PODALPIIGSVDPKXVNDPIIKSGMERALAYVGLBPNTPYLSKIKVDKVTIGSLTNGRIE	366
Qy	368	DLRAAAVVKGRKKAPNVKSAWVPGSGLYKTOAEEBGLDKIEEAGFEWRBACSCMCLG	427
Db	367	DLRSAAAVVRGKKLSNITKLAVVPGSGLYKQAEABGLDKITQEAGFEWRBACSCICLG	426
Qy	428	MNPDLIAPOERCASISNNRNFEGROGAGGRTHLMSPVMAAAGIVGKLADYRKLTIDYK--	484
Db	427	MNPDLIDAYERCASTSNRNFEGROGALSRTHLMSPVMAAAGIAGHVDIREF-EYXDQD	485
Qy	485	-ASPHI-----AAYQKSTYTKPHVBRINQDAHEKLIADIPEDNNPHINTS	531
Db	486	QSSPVEVYTSDEKELESAAVYDHAEPVQ--EDADQDI-ANBELKQIPKXSDTTPAKPS	541
Qy	532	ASVGTSAGLPKFTIILKGIAPLEKAVNDTDAIIPKQFLKTIKRTGLGNALFYEWRFNEDG	591
Db	542	-----SSGKPKFTLTGEGISAPLDKAVNDTDAIIPKQFLKTIKRTGLKKGLFYEWRFKRD	596
Qy	592	---TEKSDPVLNKPEPKASIIIVCTGANFGCGSSREHAPALNDFGIRSVIAPSPADIFF	648
Db	597	QCKQDETDFVLNVEMPREAEILVYTDGNFGCGSSREHAPALNDFGIKSIIPASGYDIFY	656
Qy	649	NNSPKXGMLPIPIKQOAGLEAIAAEAPAKETIVDLPNOLIKATGTCITC-EEVEBERK	707
Db	657	NNSPKXGMLPIPIRLDOOIIIDKLIPIANKGKLCVDPINQKILTDSGDNVLVDHFIPIPRK	716
Qy	708	HCLVNGLDIDIGLTMQMEDKIAEFKATRETPLDNGVY-----KRX 750	
Db	717	HCLVNGLDIDIGTLQKEEYISREALERREYVSLEGGSKLTKFDNVBRK 766	

```

RESULT 4
US-10-369-493-7864
; Sequence 7864, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 7864
; LENGTH: 875
; TYPE: prt
; ORGANISM: Rhodobacter sphaeroides
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (1)..(875)

```


Query Match	50.0%;	Score 2027.5;	DB 6;	Length 710;
Best Local Similarity	56.4%;	Pred. No. 1e-162;		
Matches 421;	Conservative 87;	Mismatches 191;	Indels 47;	Gaps 11;

478 E-XGIATSRLLAPPH-----HSLPLIPGIP-----MIPFTQH 50/

RESULT 7
US-10-282-122A-50294
; Sequence 50294, Application US/10282122A

```

1 APPLICANT: Haselbeck, Robert
2 APPLICANT: Ohlsen, Kari
3 APPLICANT: Zyckind, Judith
4 APPLICANT: Wall, Daniel
5 APPLICANT: Trawick, John
6 APPLICANT: Carr, Grant
7 APPLICANT: Yamamoto, Robert
8 APPLICANT: Forsyth, R.
9 APPLICANT: Xu, H.
10 TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
11 FILE REFERENCE: EPITRA.034A
12 CURRENT APPLICATION NUMBER: US/10/282,122A
13 CURRENT FILING DATE: 2003-02-20
14 PRIOR APPLICATION NUMBER: 60/191,078
15 PRIOR FILING DATE: 2000-03-21
16 PRIOR APPLICATION NUMBER: 60/206,848
17 PRIOR FILING DATE: 2000-05-23
18 PRIOR APPLICATION NUMBER: 60/207,727
19 PRIOR FILING DATE: 2000-05-26
20 PRIOR APPLICATION NUMBER: 60/230,335
21 PRIOR FILING DATE: 2000-09-06
22 PRIOR APPLICATION NUMBER: 60/230,347
23 PRIOR FILING DATE: 2000-09-09
24 PRIOR APPLICATION NUMBER: 60/242,578
25 PRIOR FILING DATE: 2000-10-23
26 PRIOR APPLICATION NUMBER: 60/253,625
27 PRIOR FILING DATE: 2000-11-27
28 PRIOR APPLICATION NUMBER: 60/257,931
29 PRIOR FILING DATE: 2000-12-22
30 PRIOR APPLICATION NUMBER: 60/267,636
31 PRIOR FILING DATE: 2001-02-09
32 PRIOR APPLICATION NUMBER: 60/269,308
33 PRIOR FILING DATE: 2001-02-16
34 Remaining Prior Application data removed - See File Wrapper or PALM.
35 NUMBER OF SEQ ID NOS: 78614
36 SOFTWARE: PatentIn version 3.1
37 SEQ ID NO 50294
38 LENGTH: 753
39 TYPE: PRT
40 ORGANISM: Burkholderia mallei
41 FEATURE:
42 NAME/KEY: MISC_FEATURE
43 LOCATION: (468)..(468)
44 OTHER INFORMATION: X=any amino acid
45 FEATURE:
46 NAME/KEY: MISC_FEATURE
47 LOCATION: (470)..(470)
48 OTHER INFORMATION: X=any amino acid
49 FEATURE:
50

```

; NAME/KEY: MISC FEATURE
; LOCATION: (540)..(540)
; OTHER INFORMATION: X=any amino acid
US-10-282-122A-50294

Query Match 50.0%; Score 2025.5; DB 6; Length 753;
Best Local Similarity 54.0%; Pred. No. 1.7e-162;
Matches 422; Conservative 94; Mismatches 189; Indels 77; Gaps 13;

Qy 9 QTLVDKVLQAHVVDKLDGTLLYIDRHLVHEVTSPOAFEGRLNAGRKVRPDCDTLATTD 68
Db 1 QTLVDKVLNHHVHTEDEGTALLIYDQLLHEVTSPOAFEGRLKLAQRPVWRISANLAVSD 60
Qy 69 HNVPTTSRKALKDIASTFIKEDDSRTQCVTLEENVKEFGVYFGLSDKRGIVHVIQGPQG 128
Db 61 HNVPTTDR-----SHGIADPVSKLQVDTLDANCDAVGITQFKMNDVRQIGVHIIGPQG 114
Qy 129 FTLPQTTVCGDSHTSHGAFGALAFGIGTSEVHVLAQCLITKRSKNMRIQVDCGELAP 188
Db 115 ATLPGMTIVCGDSHTSHGAFGALAHGIGTSEVHVLAQCLITLQKSKNMLVKVEGQLPR 174
Qy 189 GVSSKDVVLHAIGIITAGGTGAVIEFCGSVIRLSMEARMSICNMSIEGGARAGMVPD 248
Db 175 GCTAKDVLIAIQIGTAGGTGVAIEFGSTIRALTWEGRTVNCMAIEAGARAGMVAVD 234
Qy 249 EITFEYLKGRPLAPKYDSPWHKATQYWKQLQSDPGAKYDIDVIDAKDVIPTLTWTGTP 308
Db 235 DTTVEYLKGRPFVP--TGAENDQAVEYWKTFRSDGAGQFDRVVELDAAQIVPQVTWTGTP 292
Qy 309 EDVVPIITGVVDPDETFAATEAKKADGRMLQYMGKAGTPEMEDIIVDKVFIGSCNRSRIED 368
Db 293 EMVTSIDGRVDPDEREKDPVKRDAMEALAYMALAPNTPIEAIKVDKIFIGSCNNAIED 352
Qy 369 LRAAAAVVK--GRKKAPNVKSAMVVPGLVKTOAEIEGLDKIPFEAGFEWREAGCSMCL 426
Db 353 IRAAAVVKLNRRVAPNVZLAMVVPGLVKVKAQAEIEGLDKVTEAGFEWREAGCSMCL 412
Qy 427 GMPNDILAPOERCASSTNRNFEGRQAGGRTHLMSPVMAAAAGIVGKLADVRKL----- 480
Db 413 ANNADRLPEGRCASTNRNFEGRQAGGRTHLVSPMAAAAAIEGHFVDIRRLGXATH 472
Qy 481 -----TDYKASHIAAYQKSTVTKPHVDERINQDAHEKDIIADIPEDNN 524
Db 473 RFGSAPPSRWRACSAWPAATRSAPWARTSTPPRQDAR-----G 514
Qy 525 GPHNTSASVGTG-----AGL-----PKFTILKGIAAPLEKXANDVDTAIIPKQFLKT 571
Db 515 GLTARASAPIRASILPARAAGLQSGXRIMEKENVHTGVVAPLDRENVDTAIIPKQFLKS 574
Qy 572 IKRTGLGNALFYEMRF---NEDGTEKS-----DFVLNKPYPKASILVCTGANFGCGSS 622
Db 575 IKRTGFGPNADFWRVLDHGEQGDNSKRPLNDFVLNQPRYQAGSVLLAR-KNFGCGSS 633
Qy 623 REHAPNALDFGRSVIAPSFADIFNNFKNGLMPLPIKDOAQIEAIAAEARA--GKEI 680
Db 634 REHAPALQOYGRALVAPSFADIFNNCYKNGLPLVILTEQ-QVDHLFNDTYAFNGYQL 692
Qy 681 EVDLPNQLIKNATGETICTPEVEFEFRKHLVNGLDDITGLTQWMDKIAEPEAKMTRETPW 740
Db 693 TIDLDAQVVRAPDGREY-PEITAFRYKYLNGDFDDIGLTLRHADKIRQFEAERLAKQPW 751
Qy 741 LD 742
Db 752 LD 753

RESULT 8

US-10-369-493-15479
; Sequence 15479, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.

; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 15479
; LENGTH: 711
; TYPE: PRT
; ORGANISM: Xanthomonas campestris
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (1)..(711)
; OTHER INFORMATION: unsure at all Xaa locations
US-10-369-493-15479

Query Match 49.8%; Score 2018.5; DB 6; Length 711;
Best Local Similarity 56.1%; Pred. No. 6.1e-162;
Matches 419; Conservative 87; Mismatches 192; Indels 49; Gaps 10;

Qy 9 QTLVDKVLQAHVVDKLDGTLLYIDRHLVHEVTSPOAFEGRLNAGRKVRPDCDTLATTD 68
Db 2 KTLVDKLVEMHEVTRRDDGSSLIYIDRHLHEVTSPOAFEGRLAGRKPKWRIDANIATPD 61
Qy 69 HNVPTTSRKALKDIASTFIKEDDSRTQCVTLEENVKEFGVYFGLSDKRGIVHVIQGPQG 128
Db 62 HNVPTTRAEROGGLES--ISDEVSRLOVQVTLDCNDDFGILEFKMNDTROGIVHVVGPQG 120
Qy 129 FTLPQTTVCGDSHTSHGAFGALAFGIGTSEVHVLAQCLITKRSKNMRIQVDCGELAP 188
Db 121 ATLPGMTVCGDSHTSHGAFGALAHGIGTSEVHVLAQCLITLQKSKNMLVKVEGTLPP 180
Qy 189 GVSSKDVVLHAIGIITAGGTGAVIEFCGSVIRLSMEARMSICNMSIEGGARAGMVPD 248
Db 181 GVTAKDVLVAVIGKIGTAGGNHAFAGSIRALSMEGRMTICNMSIEAGARAGMVAVD 240
Qy 249 EITFEYLKGRPLAPKYDSPWHKATQYWKQLQSDPGAKYDIDVIDAKDVIPTLTWTGTP 308
Db 241 EKTIAVYKGRFPAPK--GADWDAVALMRTLVLSDADASEFTVVELRAEDIKPVQSWGTSP 298
Qy 309 EDVVPIITGVVDPDETFAATEAKKADGRMLQYMGKAGTPEMEDIIVDKVFIGSCNRSRIED 368
Db 299 EMVTDQVDPDPAEQPTKEDSIQRAKLYMGLRANQPIEIHLDVFIGSCNRSRIED 358
Qy 369 LRAAAVVKGRKKAPNVKSAMVVPGLVKTOAEIEGLDKIPFEAGFEWREAGCSMCLGM 428
Db 359 LRAAAVAKGRKVASTIKQALVVPGLVKVKAQAEIEGLDKIFLDAGFEWREPGCSMCLAM 418
Qy 429 NPDILAPOERCASSTNRNFEGRQAGGRTHLMSPVMAAAAGIVGKLADVRKLTIDYKASPH 488
Db 419 NPDKLGSGEHCASSTNRNFEGRQAGGRTHLVSPMAAAAAVSGHFVDVRELQGIETREX 478
Qy 489 IAAQKSTVTVPKPHVDERINQDAHEKDIIADIPEDNNGPHNTSASVGTSA-GLPKFTILK 547
Db 479 GIATSRU-----HPATPFSTPNRSYMTPTQHT 507
Qy 548 GIAAPLEKXANDVDTAIIPKQFLKTIKRTGLGNALFYEMRF---NEDGTEKS-----DFV 598
Db 508 GLVAPLDRANVDTQIIPKQFLKSIKRTGFGPNLFDWRYLDIGEPGRDNSTRPLNQEFV 567
Qy 599 LNKEPYRKASILVCTGANFGCGSSREHAPNALNDGIBSVIAPSFADIFNNFKNGLMPL 658
Db 568 LNFPRYQAGSVLLAR-ENFGCGSSREHAPNALDEYGFRAVIAPSFADIFNNFKNGLLP 626
Qy 659 IPKDOAQIEAIAAE--ARAGKEIEVDLPNQLIKNATGETICTPEVEFEFRKHLVNGLDD 716
Db 627 I-VLAAEAMDALFBOCLNGEGYQLTVDLAAQVRPDPGVEY-AFEIDAFRKHLVNGLDD 694
Qy 717 IGLTWQMEDKIAEPEAKMTRETPWLDG 743

Db 685 IGLTLDADAIGRFEGGHRAGQDPWLEFG 711

RESULT 9

```

? Sequence 9413, Application US/10369493
? GENERAL INFORMATION:
? APPLICANT: Cao, Yongwei
? APPLICANT: Hinkle, Gregory J.
? APPLICANT: Slater, Steven C.
? APPLICANT: Goldman, Barry S.
? APPLICANT: Chen, Xianfeng
? TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
? TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
? FILE REFERENCE: 38-10(52052)B
? CURRENT APPLICATION NUMBER: US/10/369,493
? CURRENT FILING DATE: 2003-02-28
? PRIOR APPLICATION NUMBER: US 60/360,039
? PRIOR FILING DATE: 2002-02-21
? NUMBER OF SEQ ID NOS: 47374
? SEQ ID NO 9413
? LENGTH: 752
? TYPE: PRT
? ORGANISM: Xylella fastidiosa
? FEATURE:
? NAME/KEY: unsure
? LOCATION: (1)..(752)
? OTHER INFORMATION: unsure at all Xaa locations
?-10-369-493-9413

```

Query Match	49.2%;	Score 1995;	DB 6;	Length 752;
Best Local Similarity	54.8%;	Pred. No. 6.6e-160;		
Matches 418;	Conservative 96;	Mismatches 207;	Indels 42;	Gaps 13;

```

9 QTLXDKVQLQAVHNDKEDJVLVIYIDRHLIHEVTS.PAFGLNAGKVR.PCCTATTD 68
Db : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
2 KTLXGKLMDIHVARRDDGSLIYIDRHLIHEVTS.PAFGLNAGKVRPLRVANAIATPD 61
Qy 69 HNVFTSRKKALKDIASFIKEDDSRTQCVTLEENYKEFVTTYFGLSDRKQGIIVHIGBEG 128
Db : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
62 HNVPFTTKAERGQSLLT--LADTVSRLOQTLDENDCCDGFGEFFKMKNDRQGIIVHIGBEG 120
Qy 129 FTLEGTWVGCDSTHTSHGARFALPFIIGSEVGHVLAATOCLITKSXMR.IQVDEELAP 188
Db : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
121 ATLEGMTVACGDSTHTSHGARFALAHGIGSEVEHVLAATOCULTQKKNNQVAREGTLSS 180
Qy 189 GVSSKDVVLAHIGITGAGTGAVIEFCGSYIRSLISMEARMSICNMISIECGARAQVAPD 248
Db : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
181 GVTAKDILVALIGKITRGNGVAVEFSGSTIRALBSNEGMTICNMALIEAGAVGVAYD 240
Qy 249 EITEFYLGRLPAKYDSPEMHKATQYWKNLQSDPGAKYDIDVFIDAKDIPVLTWTGTS 308
Db : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
241 EKTIOYVHGREFPAEK--GSDWDAAVAEFWRGLVSPPDAHPRVELSASEEIKPOYTWTSP 298
Qy 309 EDVVPIGCVVDPEPTFAEAKKADGRMLQYMGKACTPMEDI.PVDVVFISGCNSRIED 368
Db : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
299 EMVASVDOSVDPREDTPVKKESLRALRKLYMGQPNDDPTSILDXDFVIGSCNSTSIED 358
Qy 369 LRAAAA.VVKGRRKKA.PNVKSA.MVVPGSG.IVLTQA.EEEGLDKIFEEAGCEMFEACCSMCLGM 428
Db 359 LRAAAEVVKGGKVASTYKQAMVVP.GSGIVKQAQAEVBGLDKIFIEAGCEMFEPCSMCLAM 418
Qy 429 NPDLIAFOERCASTSNRNNEBROGA.GGRTLM.SVMAAAAGIYGK.LADVRLK.IDYKASPH 468
Db : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
419 NPKDIGSEHCASITSNRFEBCROGIGGRTLV.SPAMA.AAAVACH.PVDVREM--MRDEPY 476
Qy 489 I-----AAVQKSVTKEHVD---BRINDOAHBKDIIADIPEDNBNPHNTSASVQTA 538
Db 477 VVFPDAMCKRANEGLYSNPFDCRNTSSAXSVSKRLF.FSLP-----AAXXNGSHIYDRSA 532
Qy 539 G-----LPKFTILKGIAAPLEKANVDTDAIIPKOFLTKIRKTLIGNALFEYMFR-- 587

```

D6
533 HRIFFKXASLMKPFTQHTGLVCPILDRVNVDDIOIIPKOPKSIKTRGFGPNLFDEKRITYD 592

OY
588 ----NEDGTEK---SDVLNKPEPKASILVTGANFGCGSSREHAPMALNDPFGISVTA 640
 ::: ||| ||| ||| ||| |||

D6
593 AGQPGQDNRSKFPIUSDVNLPRRGASVTLAAD-NFGCSSSEHHAMALDEGGFRTVTA 651

OY
641 PSFADIFFNNFSFKNGMLPIPDKDAQIEAIAAEARA--GKEIEVDLNPQLIKNATGETTC 698

D6
652 PPSFADIFFNNFSFKNGLLPL-VLNKVEVDALFAQCQVTEGYTTLTVDLAAQQVTPPDGTY- 709

OY
699 TFEVEERFRKHCVLNGLDIDIGLTQMEXKLAEFAKTKRETREPWL 741

D6
710 AFOIDTFRKHCLINGLDIDIGLTQYAETAIKAFAATHRIROPWL 752

RESULT 10

```

US-10-369-493-17883
/ Sequence 17883, Application US/10369493
/ GENERAL INFORMATION:
/ APPLICANT: Cao, Yongwei
/ APPLICANT: Hinkle, Gregory J.
/ APPLICANT: Slater, Steven C.
/ APPLICANT: Goldman, Barry S.
/ APPLICANT: Chen, Xianfeng
/ TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
/ TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
/ FILE REFERENCE: 38-10(52052)B
/ CURRENT APPLICATION NUMBER: US/10/369,493
/ CURRENT FILING DATE: 2003-02-28
/ PRIOR APPLICATION NUMBER: US 60/360,039
/ PRIOR FILING DATE: 2002-02-21
/ NUMBER OF SEQ ID NOS: 47374
/ SEQ ID NO 17883
/
/ LENGTH: 755
/
/ TYPE: PR1
/
/ ORGANISM: SPHINGOMONAS
/
/ FEATURE:
/
/ NAME/KEY: unsure
/
/ LOCATION: (1)..(755)
/
/ OTHER INFORMATION: unsure at all Xaa locations
/
US-10-369-493-17883

```

Query Match	48.8%;	Score 1978;	DB 6;	Length 755;
Best Local Similarity	54.3%;	Pred. No. 1.8e-158;		
Matches 417; Conservative	86;	Mismatches 217;	Indels 48;	Gaps 12

```

0Y 9 OTLIDKVLQAHVNDKEDLDGTVLLYIDRHLVHEVTSPOAFEGFLNAGAKRVRPDLTLATTD 68
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
1 RTLYEKIMADHVVERRDGTCLYIDRHLVHEVTSPOAFEGFLNAGAKRVRPDLTLATVPD 60
0Y HNVPTSRKALKDASFIKEDDSRTCCVLEENNVKEGVYVFGSLDRQGIIVAVIGPEOG 128
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
61 HNLPTFPVDAAGNALPIADBSAGQLSALRGVNAEFGVYIDALDRQGIIVAVIGPEOG 120
0Y FTLPEYTVCCDSHTSTHGAFGALAFGIGITSEVENHVLATOCILTKKSKNMRICVDGELAP 188
129 : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
121 FTLPEYTVCCDSHTSHAGNLGALAFGIGITSEVENHVLATOTLLLKQSKTMEVAVDGTLGH 180
0Y GVSSKDVVLAHIGITINGTGAVIEFGGSYVIRLSNEARNMSICNNISIEGGARAGVAPD 248
189 : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
181 GVSADVDVLAIIIGIGIAGAGGTGVYIEFTGEVIRNLSIEGRLTISNMSIEGGARAGSLIAPD 240
0Y ETTEFYLGRGLAKRYOSPEBWHKATQYWKLOSPGSKYIDVFIADKDIIVPLTWTGTS 308
249 : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
241 ETEFYVYLGRLPLAFGEH--MDRAVVAWTKLPTDRHAIVYKVVTLTDADLAPSLTWTGTS 298
0Y EDVVPITGVDEPETFFAFEAKKADGRMLQYMLKAGTPEMEDIIVDVKVFIIGSCTNSRIED 368
309 : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
299 EDVVPITGVDEPQSFDDPSKRAAQSLDWMGLTPECTAMODIPEVHIFIIGSCTNSRIED 358
0Y LRAAAAVYKGRKKAPNVKSAWVVPGSLVYTOABEEGLDKIFEEAGSEMEAEAGCSMGLM 428
369 : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
359 LRAAAAVQGRKVDRIPOALIVPGSGIVKROABEEGLDRIFEEAGQWMEEPGCSMGLAM 418

```

QY 429 NPDILAPQRCASSTNRNFEGRQAGGRTHLMSPVMAAAAGIVGKLADVRKL----- 480
Db 419 NPDKVPAGERCASTNRNFEGRQAGSRTHLVSPAMAAAAAVTGHLTDVRALMADQAXXX 478
QY 481 ---TDVKASPHIAAYOKSTVTKPHVDERI-----NDAHEKDIADIPE 521
Db 479 RGETPXKRRSSHXLPERKXAVSPR-PMRVPIRGRRRRRSRSPSSSHRADAGGRLE 537
QY 522 --DNNGPHNTNTSASV-----GTSAGLPKFTILKGAAPLEKANVDTDAIIPKQFLKTIK 573
Db 538 IGDGRPFVRKAVSMYLVNTVSAERRXWSRFRARAYPWGAKNIDTDIIIPAHWLKTTT 597
QY 574 RTGLGNALFYEMRFNEDGTEKSFVNLKEPYRKASILVCTGANFGCGSSREHAPWALNDF 633
Db 598 REGLGKGAPEFVR-ABPGN-----LFDDPRYAGAPILV-AGENFGCGSSREHAAWALADM 650
QY 634 GRSVLAPEFADIFFNNSFKNGMLPIPKDOAQIEAIAAEARAGKELEVLPNOLIKNAT 693
Db 651 GIQAVIAPSFDSIFSGNAFKNGIVTVVLPOEA-IDRLVQVATA-NEITVDLETMTVTTFD 708
QY 694 GETICTFEVEERFKHGLVNGLDIGLTMQMEDKIAEPEAKVTRETPLW 741
Db 709 QDRF-AFELDPFRDCMLQGLDEIGMTLAQDTAISKEFSAVAHERPWI 755
RESULT 11
US-10-369-493-9308
; Sequence 9308, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 9308
; LENGTH: 749
; TYPE: PRT
; ORGANISM: Xylella fastidiosa
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (1)..(749)
; OTHER INFORMATION: unsure at all Xaa locations
US-10-369-493-9308

Query Match 48.4%; Score 1963.5; DB 6; Length 749;
Best Local Similarity 55.0%; Pred. No. 3.1e-157;
Matches 412; Conservative 95; Mismatches 211; Indels 31; Gaps 11;

QY 9 QTLYDKVLOAHVDEKLDGTVLVLYIDRHLVHEVTSPOAFEGRLNAGRKVRPDCITLATTD 68
Db 4 KTLYGLWIDIEHVARDDGSSLYIDRHLVHEVTSPOAFEGRLNAGRKVRPDCITLATTD 63
QY 69 HNVPTTSRKALKDIASFIKEDDSRTQCVTLLENVKEFGVTYFGLSKRQGIHVHIGPEQ 128
Db 64 HNVPTTKAERQSGLLS-IADTVSRQLQVTLDCNDGDFGEFEKMNVDVRQGIHVHIGPEQ 122
QY 129 FTLPGTIVVCGSHTSHGAFGALAGIGTSEVHVLAATQCLITKRSKNMIOVDGELAP 188
Db 123 ATLPGMTVVCGSHTSHGAFGALAGIGTSEVHVLAATQCLITKRSKNMIOVDGELAP 182
QY 189 GVSSKDVHLHAGIIGTAGTGAVIFCFGSVIRLSMEARMSICNMSIEGGARAGVAPD 248
Db 183 GWYAKDIVLALIGKIGTAGGNGVAVFSGSTIRALSMEGRWTCNMAIEAGARVGMVAVD 242

QY 249 EITTEYLKGRPLAPKYDPSPEWHKATQYWKNLQSDPGAKYDIDVFDADKDIVPLTLWTGTS 308
Db 243 EKTQYVHGRFPABK--GSDMDAAVAFWRGLVSDPDHFDVRVVELSAEIEKFOVWTGTS 300
QY 309 EDVVPIITGVVDPDPTFAEAKKADGRMRMLQVMGLKAGTPMEDIPVDKVFIGSCTNSRIED 368
Db 301 EMVSAVDOSVDPDERETDPVKESILIRALKYNGLOPNPDIPIKLDRVFIGSCTNSRIED 360
QY 369 LRAAAAVVKGKKAPNVKASVMVPGSGVLVKTQAELEGDKIPEEAGFEWREAGCSMCLGM 428
Db 361 LRAAAVVKGRKVASVTKQAMVVPVPGSGVLVKAQAEVEGLDKIFIEAGFEWREPGCSMCLAM 420
QY 429 NPDILAPQRCASSTNRNFEGRQAGGRTHLMSPVMAAAAGIVGKLADVRKL-TDYKASP 487
Db 421 NPDILGSGEHCASSTNRNFEGRQAGGRTHLMSPVMAAAAGIVGKLADVRKL-TDYKASP 480
QY 488 HIAAYQKSTVTKPHVDERI-----NDAHEKDIADIPEDDNNGPHNTNTSASVGTSG- 539
Db 481 SLXMLGNVLMKVYIQCFRLIVSILLAHXSVSKELPFSISAAXXNGSAIYDRSVHRIPK 540
QY 540 -----LPKFTILKGAAPLEKANVDTDAIIPKQFLKTIKRTGLGNALFYEMRF-----N 588
Db 541 HWXSLMKPFTQHTGLVCPDRVNVDTQIIPKQFLKSIKRTGFPNLPDEWRYLDAGQPG 600
QY 589 EDGTEK---SDFVLNKEPYRKASILVCTGANFGCGSSREHAPWALNDFGIRSVIAPSPAD 645
Db 601 QDNKRPINSDFVLNPRYRGASVLLARD-NFGCGSSREHAAWALDEYGFRTVIAPSPAD 659
QY 646 IFFNNSFKNGMLPIPKDOAQIEAIAAEARA--GKEIENVLPNOLIKNATGETICTFEVE 703
Db 660 IFFNNSFANGLLPI-VLNKVEVDALFAQCQVTEGTVLVDLAAQVITPDGTTY-AFQID 717
QY 704 EFRKHCLVNGLDIGLTMQMEDKIAEPEA 732
Db 718 TFRKHCLLNGLDIGLTLQHAEAIRAPEA 746
RESULT 12
US-10-369-493-8616
; Sequence 8616, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 8616
; LENGTH: 681
; TYPE: PRT
; ORGANISM: Ralstonia metallidurans
US-10-369-493-8616
Query Match 48.2%; Score 1955.5; DB 6; Length 681;
Best Local Similarity 53.7%; Pred. No. 1.2e-156;
Matches 400; Conservative 96; Mismatches 174; Indels 75; Gaps 10;


```
Db 115 GATPGMTTTCGDSHTSTHGAFAFGTISEVQVLSAOCLMKPKPSMLVREGEIA 174
Qy 188 PGVSSKDVLTALIGITAGGTGAVIEFCGSVIRSLSMERMSI CNMSIEGGARAGMAP 247
Db 175 AGVAKOIALALIGRIGTAGTGYIEFAGSTIRGLSMGRMTVCMMAL EAGARAGMAP 234
Qy 248 DETFEYLKGRPLAPKDSPEMHKATQYWKLOSPGAKYDIDVFIDAKOIVPTLTWGTG 307
Db 235 DETTLAVALRPOAPQGEA--WESASAYWRTLRSDPAVFDVAVDIGVATIRPHVTWGTG 292
Qy 308 PEDVPTTGAVVDETFTEAKKADGRMLQWGLKAGPMDIPVDKVFISCTMSRTE 367
Db 293 PENVAALDERIPDRQEDPYRRRGMERALTWTGLEPGIKVASIALDKVFISCTNARLE 352
Qy 368 DLRAAAVVKGRKAPNVKSAWVPGSGLVKTQAEEDGLDKIFEAGFEWREAGSCMCLG 427
Db 353 DLRAAAVLRGRHVASNTRQALVYVPGSGLVKSQABEGLDRFIDAGFEWREAGSCMCLG 412
Qy 428 MNPDLAPQERCASTSNNEFGGAGGGRTHLMSPVMAAAGIVGLADYRKLTDYKASP 487
Db 413 MNDRLRPGERCASTSNNEFGGAGGGRTHLVSQMAAAAVAGHFVDV----- 462
Qy 488 HIAVQKSTVTKPHVDERINDAHEKDIIADIPEDNNGPHNTSASVGSAGLPKFTIILK 547
Db 463 -----STVLQ-----SK-----SAVKATVILD 479
Qy 548 GIAAPLEKANVDTALIPKQFLTKITKGTGNALFYEWMFNEDEG-----TEKSDPV 598
Db 480 GLVAPDIRAVDTALIPKQFLKSIQRSGFPYLPFDEWRYLDPGEEGQDCSQSRPRKPDV 539
Qy 599 LNKPYRKASILVCTGANFGCGSSREHAPMALNDFGIRSVIAPSPADIFPNNSFKXGMLP 658
Db 540 LNPORYOGASVTL--VRENFQCGSSREHAPMALEDLGLRALIAPSEADIFCNMCKMKGILLP 598
Qy 659 IPIKQAOIEHIAE--ARAKKEIFVDLPNOLIKNATGETTCTFEVEERKICLVNGLDD 716
Db 599 IVEANV--VDFLFEAVDTPGIRLHVLDLATQLVTPPSGDAI--SFSWDPKQKQCVLNGLDD 656
Qy 717 IGLTQMOMEDIKIAFEAKMTRETPWL 741
Db 657 IGLALQHEBARIRYELNIRHEPWL 681

RESULT 13
US-10-369-493-7437
; Sequence 7437, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; PRIOR FILING DATE: 2003-02-28
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 7437
; LENGTH: 740
; TYPE: PRT
; ORGANISM: Burkholderia cepacia
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (1)..(740)
; OTHER INFORMATION: unsure at all Xaa locations
US-10-369-493-7437
Query Match 46.6%; Score 1891; DB 6; Length 740;
Best Local Similarity 52.5%; Pred. No. 4.2e-151;
```

```
Matches 396; Conservative 102; Mismatches 195; Indels 62; Gaps 13;
Qy 34 DRHIVEVTPQAFEGELRNAGRKVR---RPDCTLATTDHNVPTTSRKALDIASFIED 89
Db 1 ERRVLAHVATYQKHLSR--GRSCXAGWRIISANLALSDHNVPTDR-----SHGIDL 52
Qy 90 DSRTOCVTLEENKREFGVTYFGLSDRQGIYHVIQPRQGFLLPCTTVVCGDSHTSTHGA 149
Db 53 ISRLQVDTLSDNCDAVGIQPKMNDLRQGIYHVIQPRQGFLLPCTTVVCGDSHTSTHGA 112
Qy 150 GALAFGISTSEVHEVLAQCLITRSKNMRLQVNDGELAPGVSSKDVLTALIGITAGGT 209
Db 113 GALAHGIGISEVHEVLAQCLITRSKNMRLQVNDGELAPGVSSKDVLTALIGITAGGT 172
Qy 210 GAVIEFCGSVIRSLSMERMSI CNMSIEGGARAGMAPDEITFEYLKGRPLAPKXDSPEW 269
Db 173 GVAIEFGGSTRRLSMGRMTVCMMAL EAGARAGMAPVDDITTEYLKGRPSP--EGEWM 230
Qy 270 HKATQYWKLOSPGAKYDIDVFIDAKOIVPTLTWGTSPEDVPTITGVVPDPETFAPEAK 329
Db 231 NHAVEYWKQFSPDGAQFDRVVEINAAEIVQVYTWGTSPKWTAVDGRVPDPDEKDPVK 290
Qy 330 KADGRMLQWGLKAGPMDIPVDKVFISCTMSRTEDLRAAAVVK--GRKAPNKS 387
Db 291 RDLERALKYMALEPNAPISIKPKDIFISCTNARIEDIRAAVYVVKLGRVAPNRL 350
Qy 388 AMVPGSGLVKTQAEEDGLDKIFEAGFEWREAGSCMCLGNPDILAPOERCASSTNNEF 447
Db 351 AMVPGSGLVKQAEERGLDKVFTDAGFEWREAGSCMCLMNNARLEBGERCASTSNNEF 410
Qy 448 EGRQAGGRTHLMSPVMAAAGIVGLADYRKLTDYASPHIAAYOKSTVTK----- 499
Db 411 EGRQAGGRTHLMSPVMAAAGIEGHFVDIRKLGXTMMKMM--NRTTLRLRPLGSLA 467
Qy 500 -----PHVDERINQDAHEKDIIADIPEDNNGPHNTSASVGSAG- 539
Db 468 GLILLAGCNTVHFGEDMSHLGNSISNADKXAVDFCPRAQSGFPXSLRASPLETGA 527
Qy 540 --LPKFTIILKGIAPLEKANVDTALIPKQFLTKITKGTGNALFYEWMF--NEDGTEK 594
Db 528 SWNEKFIYHTGVVAPLDRREVVDTAIIPKQFLKSIKRTGCGPNAPFDEWRYLDHGEPODN 587
Qy 595 S-----DVLNKEPYRKASILVCTGANFGCGSSREHAPMALNDFGIRSVIAPSPADIF 648
Db 588 SCRLNPDPFVLNQPRYQASVTLAR--KNFGCGSSREHAPMALEQYFRALIASPADIFY 646
Qy 649 MNSFKXGMLPIPIKQAOIEHIAEARA--GKEIVLDPNOLIKNATGETTCTFEVEER 706
Db 647 NNCFKGVLPITVLEO-QVQHLFENEYAFNGFKLTVDLEAVRTAOGTEYPEVAAFR 705
Qy 707 KXCLVNGLDIDIGLTQMOMEDIKIAFEAKMTRETPWL 741
Db 706 KYCLINGFDIDIGTLRHADKIROFEARIRAKQEPWL 740

RESULT 14
US-10-369-493-4678
; Sequence 4678, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 4678
```

```
; LENGTH: 729
; TYPE: PRT
; ORGANISM: Burkholderia fungorum
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (1)..(729)
; OTHER INFORMATION: unsure at all xaa locations
US-10-369-493-4678
```

```
Query Match 46.4%; Score 1881; DB 6; Length 729;
Best Local Similarity 52.5%; Pred. No. 2.9e-150;
Matches 396; Conservative 93; Mismatches 178; Indels 88; Gaps 13;
```

```
QY 46 APEGLNAGKRRPDPCTLTATDHNVPPTSRRKALKDIASFIKEDDSRTQCVTLEENVEKF 105
DB 4 AFEA-EAERPVRISANLSDHNVPPTDR-----SHCIADPISRLQVDTLDSNCDAY 56
QY 106 GVTYFGLSDKRGIVHVIPEQOFTLPGTTVCGDSHTSTHGAFALAFGIGTSEVEHVL 165
DB 57 GITQFMNDLRQGIHVIIGPEQATLPGMTIVCGDSHTSTHGAFALAHGIGTSEVEHVL 116
QY 166 ATQCLITKSKNMRIOVDGELAPGVSSKQVVLHAIGIITAGTGAVIEFCGVSIRLSM 225
DB 117 ATQTLQKSKNMLVQVEGALPRGCTAKDVLAIIGKIGTAGTGVAIEFGGSTITRALS 176
QY 226 BARMISCNMSIEGGARAGVAPDEITFEYLKGRPLAPKYDSPWHKATQYWKNLQSDPGA 285
DB 177 EGRMTVCNMAIEAGARAGVAVDDTTIEYLKGRFPSP--EGVEHNHAYEWKQFKSDGGA 234
QY 286 KYDIDVIDAKIVPTLTWTGTSPEVVPITGVVDPDETFAATEAKKADGRMLQYMGKLAG 345
DB 235 QDFRVVELNAEIVPOVTWGTSPSEMTAVDGRVPDPREKDPVKRDALERALKYMALEPN 294
QY 346 TMEIDIPVDKVFICTNSRIEDLRAAAVVK--GRKAPNVKSAMVVPVCGSLVKTOAEE 403
DB 295 APESIKPKDIFIGSTNARIEDIRAAVYVVKLGRVAPINILAMVVPVCGSLVKAQER 354
QY 404 EGLDKIFEAGFEWRAGCGMCLGNMNDIILAPOERCASSTNRNFEGRQAGGRTMLSPV 463
DB 355 EGLDKVFTDAGFEWRPFGSCMCLMNAADRLPEGCERCASTNRNFEGRQAGGRTMLVSPA 414
QY 464 MAAAAGIVGKLADVRKLTDYKASPH-----INQDAHEKDIADIPEDNNGPHTNTSASVGT 496
DB 415 MAAAAAIEGHFDIRKLGXTRMMKNMNRITLLRRFALGSLAGLLGLAGCNTVARIRRGH 474
QY 497 VTKPHVDER-----INQDAHEKDIADIPEDNNGPHTNTSASVGT 537
DB 475 VAPRQDQOOSXXISGFXFLPAMRKAFFSRCAHR-----PGLTGASV--- 518
QY 538 AGLPKFTILKIAAPLEKANVDTDAIIPKQFLTKITKRTGLGNALFYEMRF---NEDGTEK 594
DB 519 --MEKIVHTGVVAPLDRENVDTAIIPKQFLSKITKRTGFGPNADFEMRYLDHGEPOQDN 576
QY 595 S-----DFVLNKEPYPYRKASILVCTGANFGCGSSREHAPWALNDFGIRSVIAPSFADIFF 648
DB 577 SQRLNPDVFLNQRYPGASVLLAR--KNFGCGSSREHAPWALEQYGFRLIAPSFADIFY 635
QY 649 NNSFKNGMLPIPKDOAQIEAIAAEARA--GKEIEVDLPNOLIKNATGETICTFEVEEER 706
DB 636 NNCFKNGVLPVILTEQ--QVDHLFNETYAFNGFKLITVDLEAQVVRTADGGTEYPEVAAR 694
QY 707 KCLVNLGLDDIGLTMQMEDKIAEFAKMTRETPWL 741
DB 695 KYCLLNGFDDIGLTLRHADKIRQFEAERIAKQFWL 729
```

RESULT 15

```
US-10-369-493-7055
; Sequence 7055, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
```

```
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; PRIOR FILING DATE: 2002-02-21
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 7055
; LENGTH: 686
; TYPE: PRT
; ORGANISM: Burkholderia cepacia
US-10-369-493-7055
```

```
Query Match 45.9%; Score 1861; DB 6; Length 686;
```

```
Best Local Similarity 51.5%; Pred. No. 1.3e-148;
Matches 387; Conservative 94; Mismatches 188; Indels 82; Gaps 11;
```

```
QY 6 STPTLYDKVLQAHVDEKLDGTLLYIDRLHVEVTSQAFEGELNAGRKVRRPDCITLA 65
DB 3 TSPRTLLDKLQSHVVAETPNPTLLYVDRHLVVEVTSQAFEAIRLSGRKRPETVLA 62
QY 66 TTDHNVP-----TSRKALKDIAFSIKEDDSRTQCVTLEENVKERGVTFGLSDKRGIV 120
DB 63 VADHNVPITAAERTSMDAIDPL-----SRIQVQLDKCKCKEFGIKSYGIRNPQGGII 115
QY 121 HVIGPEOGFTLPGTTVVCGDSHTSTHGAFALAFGIGTSEVEHVLATCLITKRSKNMRI 180
DB 116 HVVPELGATLPGMTTVVAGDSHTSTHGAFALAFGVGTSEVEHVLATQCLSGVKQKSMVL 175
QY 181 QVDGELAPGVSSKQVVLHAIGIITAGTGAVIEFCGVSIRLSMEARMSICNMSIEGGA 240
DB 176 NVEGVLPVGTAKDVILAIIRRTGTAGTGYAMBFAGSTIRTLSEGRMTLCNMAIEAGA 235
QY 241 RAGMVAPDEITFEYLKGRPLAPKYDSPWHKATQYWKNLQSDPGAKYDIDVIDAKDVP 300
DB 236 RVGLIGVDDVTIDYVKGRRFPAPA--EAHWDAAVAYWRTLVSADARFQKIVNIDATQLRP 293
QY 301 TLTWGTSPEDVVPITGVVDPDETFAATEAKKADGRMLQYMGKAGTPMEDIPVDKVFIS 360
DB 294 MVTWGTSPVWVTVDDAVNPLDDPDVRRATMAGALTYMGLPEGTSLKISLDKLIFIS 353
QY 361 CTNSRIEDLRAAAAIVKGRKAPNVKSAMVVPVPGSLVKTOAEEGLDKIFEEAGPEWREA 420
DB 354 CTNARIEDLRAAAIVKGRHVAPTVQLALVPGSLVKAQAEAGLDAIFKEAGPEWREP 413
QY 421 GCSMCLGNMNDIILAPOERCASSTNRNFEGRQAGGRTMLMSPVMAAAAGIVGKLADVRKL 480
DB 414 GCSMCLGNMNDRLRPGERCASSTNRNFEGRQPGGRSHLVSPMAAAAAIAGHFVDV--- 470
QY 481 TDYKASPHIAAYQKSTVTKPHVDERINQDAHEKDIADIPEDNNGPHTNTSASVGTSGAGL 540
DB 471 -----SP-----RRLVQP----- 479
QY 541 PKFTILKIAAPLEKANVDTDAIIPKQFLTKITKRTGLGNALFYEMRF---NEDGTEKS-- 595
DB 480 --FTKLEALVPLDRVNVDTDAIIPKQFMKSVQRNGFGINLFDENRYFDHGEQDPSTR 537
QY 596 ----DFVLNKEPYPYRKASILVCTGANFGCGSSREHAPWALNDFGIRSVIAPSFADIFF 651
DB 538 RLNPDFVLNQRFPAGAEILL--TRDNFGCGSSREHAAWALWDFGIRALIAPGFADIFYNC 596
QY 652 FKNGMLPIPKDOAQIEAIAAEARA--GKEIEVDLPNOLIKNATGETICTFEVEEERKHCL 710
DB 597 FKNGMLPIKLDERIVQQLFDLVGRTPGLRLAIDLQAQRIQPPAGDAI--PFDVEPERKRL 655
QY 711 VNLDDIGLTMQMEDKIAEFAKMTRETPWL 741
DB 656 LNLGDDVLTQTDQIRAYERNRRAHEPWL 686
```


Db 294 GVRDEKLP-----EKHNDERAFSYMGLSPQSTYTDIPVQHVFISGCTNSRLSDLE 346
Qy 371 AAAAVVGRKKAPNVKSAWVVPVSGSLVKTQAEBSGLDKIFEEAGFEWREAGCSMCLGNP 430
Db 347 IAAVSVGKVKYKEGVR-ALVVPSSQVRREAAHMGHGHRIIFEEAGFEWREAGCSMCLGNP 405
Qy 431 DILAPQERCASTSNRNFEGRQAGGRTHLMSPVMAAAAGIVGLADVRKLTIDYKASPHIA 490
Db 406 DOVEBEGHCASTSNRNFEGRQAGGRTHLSPAMAAAALYGHFEDIRK-----454
Qy 491 AYQKSTYTKPHVDERINODAEKDIADIPEDNNGPHNTSASVGTSGLPKFTILKIA 550
Db 455 -----ESYDG-----AFRIHKQTA 468
Qy 551 APLEKANVDTDAIIPKQFLKTIKRTGLGNALFYEMRFNEDGTEKSDPVLANKPEYRKASIL 610
Db 469 AVLMDNDIDTDQIIPKQYLIKERTGFGKFLFDEWRYNNQENPNFPLNQERKGSAIL 528
Qy 611 VCTGANFGCGSSREHAPWALNDFGIRSVIAPSPADIFFNNSFKNGMLPIPIKQAOIEMAI 670
Db 529 I-TGDNFGCGSSREHAPWALADYGFVRVLIAGFADIFYNNCKNGMLPI-VMDKMDREQL 586
Qy 671 AAERAKKEIEVDLPNOLIKNATGETTCTFEVEEPRKCLVNGLDLGLTWQMEDKIAEF 730
Db 587 -AKTDAREQIIVDLENIEMTNTNR--FHFTIEKMKKEKLNGLDEISITQYEOEIKEX 643
Qy 731 EAK 733
Db 644 ERK 646

RESULT 20
US-10-369-493-14041

; Sequence 14041, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 14041
; LENGTH: 679
; TYPE: PRT
; ORGANISM: Pseudomonas fluorescens
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (1)...(679)
; OTHER INFORMATION: unsure at all Xaa locations
US-10-369-493-14041

Query Match 41.2%; Score 1670.5; DB 6; Length 679;
Best Local Similarity 47.3%; Pred. No. 1.7e-132;
Matches 355; Conservative 108; Mismatches 209; Indels 79; Gaps 15;

Qy 9 QTLVYKVLQAVHV--DEKLDGTVLLYIDRLVHEVTSPOAFEGIRNAGRKRRRDCILA 65
Db 1 RTLQKXIDSHVCTLDQ--GHVLLYIDROVANETSPQAFSGRREGRTVWRPAATLA 58
Qy 66 TTDHNVPTTSRKALDIASFIEDSRQCVLEENKVEGTVYGLSDKROGIYHVIGP 125
Db 59 VVDHVNPT---APKRIATMPAGAR-QVSYFEENCRDFGIELFDVLDKRGCIHVAVP 113
Qy 126 EOGFTLPQTIVVCGDSHTSHTGAFALAFGIGTSEVENHVLATQCLITKRSKMRIOVDGE 185
Db 1 RTLQKXIDSHVCTLDQ--GHVLLYIDROVANETSPQAFSGRREGRTVWRPAATLA 58

Db 114 EOGFTLPQMVVAAAGDSHTTYYGALGAFGFGIGTSEIEHLATQTLVVRKLTREVTNGE 173
Qy 186 LAPVSSKDVVLHAIGIITAGTGAVIEFGSVIRLSMEARNSICMSTEGGARAGMV 245
Db 174 LGAGVTSKDIITMALIERIKASGATGVAIEFTGPAISALSYEARMTICMVAEAGARGAFM 233
Qy 246 APDEITFEYLKGRPLARKYDSEBWHKATQYKMLQSDPGAYDIDVFIADADYPTLTWG 305
Db 234 APDDKVAFLYQHKERRAP--GKWEQAIIDHWKTLHSDGAVFDEVLIDVALEPMVTWG 291
Qy 306 TSPEDVVPITGVDPETPATEAKKADGRMLQYMGKAGTPMEDIPVDKFISSCTNSR 365
Db 292 TSPQAAPIKAVHDPDPAQPPILRQGLQRALDYMGLTPGRLPHEVITISHAFISGCTNAR 351
Qy 366 IEDRAAAAVVGRKKAPNVKSAWVVPVSGSLVKTQAEBSGLDKIFEEAGFEWREAGCSMC 425
Db 352 IEDRDVARVVRGRVAHVNR-AMIVPGSTLVNRQAEDEGLAQFLDAGFWRQSGCSMC 410
Qy 426 LGNMPDILAPQERCASTSNRNFEGRQAGGRTHLMSPVMAAAAGIVGLADVRKLTIDYKA 485
Db 411 LAMNDVVLAPGDRCASTNRNFEGRQAGGRTHLMSPVMAAA-ISGHLTVRVT-----464
Qy 486 SPHIAAYOKSTVTKPHVDERINQDAHEKDIADIPEDNNGPHNTSASVGTSGLPKFTI 545
Db 465 -----ALFAXT-----MQPDT 476
Qy 546 LKGIAPLEKANVDTDAIIPKQFLKTIKRTGLGNALFYEMRFNEDGTEKSDPVLANKPEYR 605
Db 477 VSGSAAPFLASNIDTDVIMPQFLKSIDRQGLDRGLFPLDLFLASGEBNPFVLNQPMQ 536
Qy 606 KASILVCTGANFGCGSSREHAPWALNDFGIRSVIAPSPADIFFNNSFKNGMLPIPIKQOA 665
Db 537 DAFLIV-TGPNFGCGSSREHAWGKQVIRALIGTFAGIIFYNCCQNGVLAIQ-L-DA 594
Qy 666 QI----EALAAERAKKEIEVDLPNOLIKNATGETTCTFEVEEPRKCLVNGLDLGLTM 721
Db 595 QPKRYAEAISVPATR--RISVNLAQTIELADG-TLIEFIDQKQSLILGLDAIGTTL 651
Qy 722 QMEDKIAEFKAKMTRETEPWLDTGYLKRKQ 752
Db 652 QRTGQIRAFEARHLADNPWL---GWMQNGR 679

RESULT 21
US-10-369-493-8819

; Sequence 8819, Application US/10369493
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Slater, Steven C.
; APPLICANT: Goldman, Barry S.
; APPLICANT: Chen, Xianfeng
; TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
; FILE REFERENCE: 38-10(52052)B
; CURRENT APPLICATION NUMBER: US/10/369,493
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US 60/360,039
; NUMBER OF SEQ ID NOS: 47374
; SEQ ID NO 8819
; LENGTH: 668
; TYPE: PRT
; ORGANISM: Ralstonia metallidurans
US-10-369-493-8819

Query Match 39.3%; Score 1595.5; DB 6; Length 668;
Best Local Similarity 44.8%; Pred. No. 3.8e-126;
Matches 330; Conservative 109; Mismatches 225; Indels 73; Gaps 10;

Qy 9 QTLVYKVLQAVHVDEKLDGTVLLYIDRLVHEVTSPOAFEGIRNAGRKRRRPPDCLATTD 68
Db 1 RTLQKXIDSHVCTLDQ--GHVLLYIDROVANETSPQAFSGRREGRTVWRPAATLA 58


```
; PRIOR APPLICATION NUMBER: 60/267,636
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: 60/269,308
; PRIOR FILING DATE: 2001-02-16
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 78614
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 51178
; LENGTH: 477
; TYPE: PRF
; ORGANISM: Bordetella pertussis
US-10-282-122A-51178

Query Match      38.5%; Score 1560; DB 6; Length 477;
Best Local Similarity 64.5%; Pred. No. 2,2e-123;
Matches 305; Conservative 56; Mismatches 104; Indels 8; Gaps 2;

QY 6 STPQTLVDKVLQAHVYDEKLDGTVLIIYDRHLVHEVTSPOAFEGELRNAGKRRPDCITLA 65
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 10 SMOQTLVDKLMDAHVHVOESDGTCLMYYIDRHLVHEVTSPOAFEGELRNAGKRRPDCITLA 69
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 66 TTDNNVPTTSRKALKDIAFIEDDSRTQCVTLEENKVEFGVTFEGSLDKRQGIHVHVG 125
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 70 VADHNVPTLNK-----AQGIEDPISRLQVDTLDDNCAKYGITEFRMDLRQGIHVHVG 123
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 126 EQGFTLPGTTCVCGDSHTSTGAFGALAFGIGTSEVEHVALTOCLITKRSKNMRYOVNDE 185
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 124 EQGFTLPGTTCVCGDSHTSTGAFGALAFGIGTSEVEHVALTOCLITKRSKNMRYOVNDE 183
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 186 LAPGVSSKDVLAHAIIGTGTGAVIEFGSVIRSLSMERANSICNMSIEGARGANV 245
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 184 LPECTAKDVLAHAIIGTGTGAVIEFGSVIRSLSMERANSICNMSIEGARGANV 243
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 246 APDEITFEYLKGRPLAPKYDSEPMHKAQYWKNOLOSDGAKYDIDVFIADQIVPTLTWG 305
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 244 AVDKTIDYFGRPAFV--GVLMDQAVGYWRTLHSDAGAFDRYINVDADIKPQVITWG 301
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 306 TSPEDVPTGVDPPEFPAEAKKADGRMLQYWGAKGTPEMDIPVDKYFISGCTNSR 365
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 302 TSPENVLPVDRVDPDEKXDVRSRSMERALEYGLKPNPLVDIRDRPFISGCTNSR 361
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 366 IEDLRAAAAYVKKRKADNVKSAWVPPSGGLVKTQAEELGDKIFEAGFEWREAGCSMC 425
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 362 IEDLRAAAAYVKKRKADNVKSAWVPPSGGLVKTQAEELGDKIFEAGFEWREAGCSMC 421
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 426 LGMNPDLAPOERCSTSNRNFEGRGAGRTHLMSPTMAAAGVGLADVR 478
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 422 LAMNADRLAPERCSTSNRNFEGRGAGRTHLMSPTMAAAGVGLADVR 474
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RESULT 24
; Sequence 65286, Application US/10282122A
; GENERAL INFORMATION:
; APPLICANT: Wang, Liangsu
; APPLICANT: Zamudio, Carlos
; APPLICANT: Malone, Cheryl
; APPLICANT: Haselbeck, Robert
; APPLICANT: Ohlsen, Kari
; APPLICANT: Zyskind, Judith
; APPLICANT: Wall, Daniel
; APPLICANT: Trawick, John
; APPLICANT: Carr, Grant
; APPLICANT: Yamamoto, Robert
; APPLICANT: Forsyth, R.
; APPLICANT: Xu, H.
; TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
; FILE REFERENCE: EPIGRA.034A
; CURRENT APPLICATION NUMBER: US/10/282,122A
; CURRENT FILING DATE: 2003-02-20
; PRIOR APPLICATION NUMBER: 60/191,078
; PRIOR FILING DATE: 2000-03-21
; PRIOR APPLICATION NUMBER: 60/206,848
```

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; PRIOR FILING DATE: 2000-05-23
; PRIOR APPLICATION NUMBER: 60/207,727
; PRIOR FILING DATE: 2000-05-26
; PRIOR APPLICATION NUMBER: 60/230,335
; PRIOR FILING DATE: 2000-09-06
; PRIOR APPLICATION NUMBER: 60/230,347
; PRIOR FILING DATE: 2000-09-09
; PRIOR APPLICATION NUMBER: 60/242,578
; PRIOR FILING DATE: 2000-10-23
; PRIOR APPLICATION NUMBER: 60/253,625
; PRIOR FILING DATE: 2000-11-27
; PRIOR APPLICATION NUMBER: 60/257,931
; PRIOR FILING DATE: 2000-12-22
; PRIOR APPLICATION NUMBER: 60/267,636
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: 60/269,308
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 78614
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 65286
; LENGTH: 469
; TYPE: PRF
; ORGANISM: Neisseria gonorrhoeae
US-10-282-122A-65286

Query Match      38.4%; Score 1558.5; DB 6; Length 469;
Best Local Similarity 64.0%; Pred. No. 2.8e-123;
Matches 304; Conservative 60; Mismatches 102; Indels 9; Gaps 3;

QY 7 TPQTLVDKVLQAHVYDEKLDGTVLIIYDRHLVHEVTSPOAFEGELRNAGKRRPDCITLA 66
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 2 TAQTLVDKLMNSHVHRESDGTVLIIYDRHLVHEVTSPOAFEGELRNAGKRRPDCITLA 61
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 67 TDHNVPTTSRKALKDIAFIEDDSRTQCVTLEENKVEFG--VTFEGSLDKRQGIHVHVG 125
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 62 ADHNTPL-----GWDKGIQDPISKQVDTLDDNCAKYGITEFRMDLRQGIHVHVG 115
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 126 EQGFTLPGTTCVCGDSHTSTGAFGALAFGIGTSEVEHVALTOCLITKRSKNMRYOVNDE 185
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 116 EQGFTLPGTTCVCGDSHTSTGAFGALAFGIGTSEVEHVALTOCLITKRSKNMRYOVNDE 175
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 186 LAPGVSSKDVLAHAIIGTGTGAVIEFGSVIRSLSMERANSICNMSIEGARGANV 245
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 176 LKAGVTAKDVLAHAIIGTGTGAVIEFGSVIRSLSMERANSICNMSIEGARGANV 235
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 246 APDEITFEYLKGRPLAPKYDSEPMHKAQYWKNOLOSDGAKYDIDVFIADQIVPTLTWG 305
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 236 AVDTTIDYVKGKFPAPGEA--WDKAVEYWRTLVSDGAVFDKRYRNADIEPQVITWG 293
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 306 TSPEDVPTGVDPPEFPAEAKKADGRMLQYWGAKGTPEMDIPVDKYFISGCTNSR 365
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 294 TSPENVLTGKVPNPAETPVPKRSGLERALEYGLKPNPLVDIRDRPFISGCTNSR 353
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 366 IEDLRAAAAYVKKRKADNVKSAWVPPSGGLVKTQAEELGDKIFEAGFEWREAGCSMC 425
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
D6 354 IEDLRAAAAYVKKRKADNVKSAWVPPSGGLVKTQAEELGDKIFEAGFEWREAGCSMC 413
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
QY 426 LGMNPDLAPOERCSTSNRNFEGRGAGRTHLMSPTMAAAGVGLADVR 480
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D6 414 LAMNADRLAPERCSTSNRNFEGRGAGRTHLMSPTMAAAGVGLADVR 468
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:

RESULT 25
US-10-282-122A-65917
; Sequence 65917, Application US/10282122A
; GENERAL INFORMATION:
; APPLICANT: Wang, Liangsu
; APPLICANT: Zamudio, Carlos
; APPLICANT: Malone, Cheryl
; APPLICANT: Haselbeck, Robert
; APPLICANT: Ohlsen, Kari
; APPLICANT: Zyskind, Judith
```

Db 414 LAMNADRLTPGQRCASSTNRNFEGRQNGGRTHLVSPAMAAAAAVTGRFTDIRMM 468

Search completed: March 17, 2003, 08:54:43
Job time : 49 secs

APPLICANT: Wall, Daniel
APPLICANT: Trawick, John
APPLICANT: Carr, Grant
APPLICANT: Yamamoto, Robert
APPLICANT: Forsyth, R.
APPLICANT: Xu, H.
TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
FILE REFERENCE: ELITRA.034A
CURRENT APPLICATION NUMBER: US/10/282,122A
CURRENT FILING DATE: 2003-02-20
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/230,335
PRIOR FILING DATE: 2000-09-06
PRIOR APPLICATION NUMBER: 60/230,347
PRIOR FILING DATE: 2000-09-09
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR FILING DATE: 2000-10-23
PRIOR APPLICATION NUMBER: 60/253,625
PRIOR FILING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/267,636
PRIOR FILING DATE: 2001-02-09
PRIOR APPLICATION NUMBER: 60/269,308
PRIOR FILING DATE: 2001-02-16
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 78614
SOFTWARE: PatentIn version 3.1
SEQ ID NO 65917
LENGTH: 469
TYPE: PRT
ORGANISM: Neisseria meningitidis
US-10-282-122A-65917

Query Match 38.1%; Score 1545.5; DB 6; Length 469;
Best Local Similarity 63.4%; Pred. No 3.6e-122;
Matches 301; Conservative 62; Mismatches 103; Indels 9; Gaps 3;
QY 7 TPQTLYKVLQAHVDEKLDGTLLYIDRHLVHEVTSQPAFEGRLNAGRKVRRPDCCTLAT 66
Db 2 TAQTLYKLVNWSHVRREEDGTLLYIDRHLVHEVTSQPAFEGRLKMAGRKLWRIDSVVST 61
QY 67 TDHNVPTTSRKALKDITASFIKEDDSRTQCVTLLENVKEFG-VTYFGLSDKKEQIGVHVIGP 125
Db 62 ADHNTPT-----GDWDKGIQDPISKLVQVDTLDKNIKEFGALAYFPFMDKGGQIGVHVMP 115
QY 126 EOGFTLPQTVVCGDSHTSTHGAFGALAFGIGTSEVEHVLATCCLITKRSKNMRIOVDGE 185
Db 116 EQGATLPQTVVCGDSHTSTHGAFGALAHGIGTSEVEHTWATQCITAKKSMLIAVDGK 175
QY 186 LAPGVSSKDVVLAHIGIIGTAGTGAVIEFCGVSIRLSMEARMSICNMSIEGGARAGV 245
Db 176 LKAGVTAKDVALYIIQIGTAGTGAVIEFGGEAIRLSMEGRMTCNMAIEAGARSGV 235
QY 246 APDEITFEYLKGRPLAPKVDSPWHKATQYWKNLQSDPGAKYDIDVIDAKDIVPTLTWG 305
Db 236 AVDQTTIDYVKDKPFAPGEA--WDKAVEYWRTLVSDGAVFDKEYRFAEDIEPQVTWG 293
QY 306 TSPEDVVPIITGVVDPETFAATEAKADGRMLQVYMLKAGTPMEDIPVDKVFIGSCCTNSR 365
Db 294 TSPFEMVLDISSKVPNFAEETDPVKRSGMERALEYVMLEAGTFLNEIPVDIVFIGSCCTNSR 353
QY 366 IEDLRAAAAVVGRKKAPNVKSAWVPGSLVKTQAEELGDKIFEBAGFEWREAGSMC 425
Db 354 VEDLRAAAIAKDRKKAANQVRLIVPGSLVKEAEKEGLDKIFIEAGFEWREPGCSMC 413
QY 426 LGNNPDILAPOERCASSTNRNFEGRQNGGRTHLVSPAMAAAAAGIVKGLADVRKL 480